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ABSTRACT

The document presents a collection of articles about "lookalike drugs." Article 1 presents readers with a look at "peashooters" (lookalike drugs which are usually replicas of pharmaceutical amphetamines, but increasingly used to describe simulations of cocaine and prescription downers). Lookalikes, although usually legal, are seen as a danger for those used to large doses of the legal version, who later consume the same dosage of the illegal drug. Also, these lookalike products are often substituted for illegal drugs in street transactions. Article 2 describes deaths linked to lookalike drugs. In article 3, a chart presenting lookalike analysis information gives the description, markings, and related drug content for 15 lookalike drugs. Articles 4 and 5 describe federal initiatives to control or ban the manufacture and distribution of lookalike drugs, and articles 7, 8, and 9 suggest additional approaches to the problem. The document concludes with an advertisement for lookalikes, a street drug analysis data chart, and an annotated bibliography of 12 books and articles published between 1979 and 1981. (LH)

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"Lookalike" Drugs

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Open Market:

"Peashooters" Go Public

By Jim Parker

Up until the last year or so, peashooters were toys that kids used to torment each other and lookalikes were people — like the Doublemint twins.

No more.

Lookalike drugs — usually replicas of pharmaceutical amphetamines, but increasingly simulations of cocaine and prescription downers, as well — have become big business all across America.

Ingredients in the products — also known as "peashooters" — are generally 100% legal, typically featuring over-the-counter stimulants, decongestants, antihistamines, and other preparations, either singly or in combination.

Coming in from the alleys and out of the closet in recent months, lookalikes have emerged as a major new category of abused substances, and as a burgeoning new industry in the bargain. Manufacturers and distributors proudly tout the latest additions to their lookalike lines in national magazines, and "speed boutiques" and mail-order firms have emerged as thriving, aboveground drug connections for hundreds of thousands of Americans in communities across the country. That the lookalike drug industry is largely unregulated, unmonitored, unpoliced, and unseen adds to the difficulty in properly evaluating America's newest "drug problem."

Where did the problem come from? Let's have a look.

Lookalikes began attracting street interest and professional scrutiny on a large scale nationwide in early 1980. Although the lookalike phenomenon "started in the Southeast" in the late seventies, according to Bill Deac of the U.S. Drug Enforcement Administration, it quickly exploded across the rest of the nation in very short order.

The peashooter explosion has been fueled by the tremendous appetite of Americans for stimulant drugs, an appetite that has been largely undiminished by declining prescription distribution of amphetamine "diet pills." Ampehtamines and other similar appetite-suppressant drugs achieved tremendous popularity as diet aids in the 1960s and early 1970s as America became fixated on youthfulness and slenderness — and dieting. Amphetamines provided users with the easiest diet in town — appetite suppression was near-total (for short periods of time at stable dosage levels), but so was a psychological habituation which the drugs produced.

Health care professionals generally began to look with increasing disfavor on amphetamine-fueled diet plans, with the result that prescription distribution of amphetamines has declined consistently since the halcyon days of a decade ago. Diet pill production, which peaked in 1971, when over 12 billion amphetamine and non-amphetamine diet pills were produced in this country, declined by 1980 to a market level in which less than two million prescriptions for amphetamines were processed in the nation's pharmacies.

But demand for stimulant drugs didn't go away just because physicians stopped writing prescriptions and pharmacists stopped filling them. Demand on the street has remained relatively stable and, gradually, lookalikes began to fill the street speed void left by declining amphetamine production.

Where do peashooters come from? The name itself was immortalized in a September, 1980 *High Times* article, which traced production of a sizable portion of the lookalikes in circulation nationally to a Tampa, Florida manufacturer and an Atlanta, Georgia distributor. The article also described an incident in which the Georgia Bureau of Investigation was stung to the tune of $20,000 in an attempted bust of one lookalike firm. When the state crime lab showed the 100,000 capsules purchased by the GBI to contain only caffeine and a review of the actual transaction showed no attempt by the seller to represent the capsules as amphetamines, controlled substance delivery charges were dropped and the GBI's $20,000 buy money was not recovered.

As lookalike distribution became more national in focus, points of origin for the drugs have become more diverse. According to the DEA's Bill Deac, a large part of current manufacture and distribution is concentrated in the East. "It basically started in the Southeast, but a lot now is being made in Pennsylvania," Deac told *Drug Survival News*. "Naturally it's also spread to other parts of the country."

One reason for the tremendous expansion of the lookalike industry, is the tremendous profitability of peasheoters. According to Deac, the lookalike industry has become "multi-million dollar. When you're dealing with thousands and thousands of these pills, it's just an incredible market."

Another reason for the unrestrained growth of the peashouter industry has revolved around the lookalikes' shadowy status. Although the ingredients of the pills are usually entirely legal, carefully falling within U.S. Food and Drug Administration guidelines for non-prescription products, the lookalikes themselves — at least until recently — have almost certainly been intended to be eventually misrepresented in street drug transactions. Legitimate manufacturers of over-the-counter stimulants and diet aids have steered clear of the lookalike industry, leaving the field open to entrepreneurs with an eye on profits and a cut-and-run mentality.

David Ogden, of PharmChem Laboratories, the nation's largest street drug analysis service, described peashooter manufacturers as inhabiting a legal gray area. "The people who manufacture these drugs," Ogden said, "are straddling a real narrow fence. In one sense, they're operating within the law, but in another sense, they're infringing on the black market."

Federal regulatory agencies have been stymied in controlling or even adequately monitoring the lookalike drug industry as a result of this quasi-legal status.

Dr. Edward Tocus, Chief of the Drug Abuse Section at the U.S. Food and Drug Administration told *Drug Survival News* that the lookalikes fall into a "jurisdictional gray area," both interdepartmentally at FDA, involving the Over-the-Counter and Drug Abuse divisions, as well as with the DEA.

"What's happening," Dr. Tocus said, "is that lookalikes are throwing a lot of confusion into something that, up until now, we thought we had control over."

Deac also explained the DEA's inability to intervene as jurisdictional. "We operate under the Controlled Substance Act of 1970," he said, "and these lookalikes are not controlled substances."

"There's no way we could dedicate manpower to follow this problem in detail. We would be doing a disservice to the taxpayer by using our facilities for something we are not empowered to look into."

The DEA only investigates lookalikes when they're passed off as legitimate amphetamines, Deac reported. This doesn't happen often, at least not on the level of dealing which the DEA investigates.

"Some drug traffickers have tried to pawn off lookalikes as the real thing," Deac added, "but the

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Open Market

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manufacturers and distributors don't. The point at which this happens, generally, is the lower-level. The schoolyard-type distributor is the one who tries to pass it off as the real thing to make the maximum profit."

While the DEA is powerless to intervene in lookalike transactions, individual states have begun to look more closely at the peashooter situation, and to take legislative steps to control it. Delaware recently amended its Uniform Controlled Substance Act to specifically include "counterfeit controlled substances," according to section A-1 of the amendment, a person convicted of delivery or attempted delivery of a non-controlled substance purported to be a controlled substance or "under such circumstances which would lead to a reasonable person, to believe that the substance was a controlled substance," can be imprisoned for up to ten years and fined up to $10,000.

***Detecting lookalikes requires a trained eye and a current edition of the* Physician's Desk Reference.**

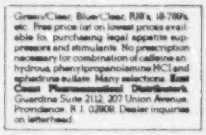
The lookalikes, themselves, often look a great deal like the popular prescription amphetamines they're designed to simulate. So much so, in fact, that even seasoned speed users and street drug observers have been easily confused by the lookalikes.

"The capsules look almost identical, in many cases, to the pharmaceutical drugs they're designed after," Randy Webber of the Illinois Dangerous Drugs Commission told *DSN*. "They're very clever facsimilies. A lot of people have been taken in by these things."

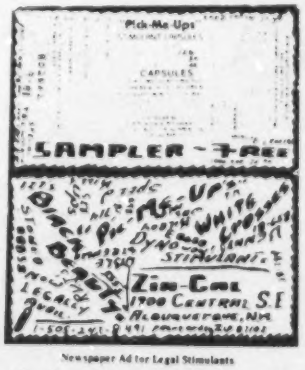
The most popular single line of peashooters, so far, has been a group of solid black capsules known on the street as "black beauties." The pharmaceutical prototype for lookalike black beauties is Pennwalt Pharmaceutical's Biphetamine.

Biphetamine by any street name has always been a highly-prized form of speed. The contents in the legitimate Pennwalt version of the drug are resin complexes of amphetamine and dextro-amphetamine, at a fairly substantial (20 mg) dose level. Street replicas of the Biphetamine capsule have been manufactured for years, but most, until recently, were found to contain at least trace amounts of amphetamine. With the advent of large-scale production of lookalikes, the contents of "black beauty" type street amphetamines have generally involved only combinations of caffeine, ephedrine, pseudoephedrine, and phenylpropanolamine — all legal, over-the-counter drugs having stimulant properties.

Detecting lookalikes requires a trained eye and a current edition of the *Physician's Desk Reference*. While legitimate Biphetamine


Green/Clear, Blue/Clear, R/B's, 18-789's, etc. Free price list on lowest prices available to purchasing legal appetite suppressors and stimulants. No prescription necessary for combination of caffeine, ephedrine, phenylpropanolamine HCl and aphedrine sulfate. Many selections. **East Coast Pharmaceutical Distributors**, Guardine Suite 2112, 207 Union Avenue, Providence, R.I. 02908. Dealer inquiries on letterhead.

capsules carry specific insignia and markings (as do most drugs manufactured for prescription distribution), lookalikes mimic these markings closely without violating trademark and copyright laws. Lookalike manufacturers have been able to successfully exploit inexperienced drug users' ignorance of the exact significance of embossed product identification codes, which, to inexperienced users, "must mean something." While the standard Biphetamine capsule carries identifying marks which include the Pennwalt corporate logo and the numbers "18-875" embossed on either side of the capsule, lookalikes have turned up with similar, but different, logos and similar, but different, numerical codes. Black capsules carrying the numbers "18-789" and other numbers have dominated the lookalike Biphetamine market, but stiff competition has come from similar capsules embossed with "RJS," "RUS," "335," "AKS," "127," "DEX," and "M E."



Newspaper Ad for Legal Stimulants

Contents of the Biphetamine lookalikes and other amphetamine lookalikes generally involve blends of legal stimulants at various dosage levels. According to a letter from P. Susan Jordan, Pharm D., published in the *American Journal of Hospital Pharmacy*, in January 1981, surrogate Biphetamine analyzed by the Alcohol and Drug Abuse Training Services (ADAPTS) program in Richmond, Virginia, have been found to contain combinations of the three most widely-found ingredients in lookalikes, caffeine, ephedrine, and phenylpropanolamine in varying doses. According to Dr. Jordan, the dosage levels of the three compounds ranged from 100-300 mg caffeine and 35-50 mg phenylpropanolamine, with a stable level of 25 mg ephedrine sulfate in most samples.

Contents and design of other peashooters are similar to Biphetamine lookalikes. Particularly popular lookalikes simulate a range of much-sought-after prescription stimulants, including Pennwalt's Ionamin (yellow capsules with numbers similar to the manufacturer's 18-904) and Smith Kline and French's Dexamyl and Benzedrine spansules (green and clear and brown and clear capsules with various markings).

A chart detailing most popular current lookalikes, is included in the accompanying box.

Just because the lookalikes are legal doesn't mean that they're without their dangers. All of the ingredients contained in the products are potentially hazardous when taken in sufficient quantity, and the potential for adverse reactions or idiosyncratic responses (special sensitivity to particular substances in certain individuals) is marked with all the substances, particularly phenylpropanolamine.

In the February 13, 1981 issue of the *Journal of the American Medical Association*, Dr. Albert J. Dietz describes a number of "exaggerated central nervous system effects," he has witnessed in phenylpropanolamine users. Primary among the effects he ascribed to phenylpropanolamine are restlessness, agitation, hypertension, and hallucinations, but also he described one psychotic episode triggered by the drug.

Other ingredients in lookalikes also have a distinct potential for adverse consequences in users. Dr. Richard Gilbert of the Addiction Research Foundation in Toronto has written extensively about caffeine and its effects. He has described significant health hazards which have been associated in adults with regular consumption of more than 600 mg of caffeine a day, including sleep disturbance, chronic anxiety, heart disease, gastrointestinal ulceration, bladder cancer, and reproductive disorders." Although acknowledging "considerable debate over most of these associations," Dr. Gilbert claims that regular consumption of more than 350 mg of caffeine a day can produce physical dependence, including withdrawal symptoms when the regular ration of caffeine is withdrawn.

Ephedrine and pseudo-ephedrine, the final major category of lookalike ingredients, act as nasal decongestants at therapeutic dosage levels. Possible side effects of these substances include nausea and headache, in addition to the range of anxiety-related symptoms associated with phenylpropanolamine and caffeine.

"Lookalikes are throwing a lot of confusion into something we thought we had control over."

Lookalikes also pose particular dangers to persons with heart disease, hypertension, diabetes, or thyroid diseases, as well as to individuals with particular hypersensitivity to specific ingredients.

Another potential danger of the peashooter is the danger to users who develop tolerance to lookalike drugs, and who then might unknowingly be exposed to their legitimate amphetamine counterparts. This lookalike quality, according to Bill Deac of the DEA, places users in "great danger."

"Can you imagine if a kid is taking four or five of these pills at a time — because you have to take quite a few to get a good charge out of it — and he thinks he's taking the real thing. Then, one day, someone comes into the schoolyard and does sell him the real thing. If he takes four or five of those, the next thing you know you have a hospital or a morgue case."

Since going public nationwide, distributors of lookalikes have launched major advertising campaigns to market their products. In addition to regular ads in the national drug press, distributors have taken mainstream publications with a vengeance, and currently hawk their products in student and community newspapers, and various national publications.

The style and quality of ads for lookalikes range from New Wave

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Bizzarro to Madison Avenue Gloss. One ad promotes its products as "The Most Powerful Stimulants Available Without A Prescription," and advises readers to "Discover the fun of sustained intellectual effort, elevated mood and a keener appreciation of stimuli ..." Other, less-glossy ads simply list lookalike products along with quantity and price information. All the ads seem to have one thing in

"Can you imagine if a kid is taking four or five of these pills at a time and then someone sells him the real thing?"

common: they work. They move peashooters.

Steve Lux, Acting Director of Mother Sunshine, a drug treatment program in DeKalb, Illinois, described an unintended, but probably unavoidable consequence of the increasing advertising by lookalike distributors: lower prices. "Advertising has brought the price down," Lux told *DSN*, citing price cuts in the DeKalb area following extensive exposure of peashooter ads. "In some cases, the prices have fallen from a dollar each to ten cents each."

Where will the "peashooter phenomenon" go from here? Anywhere, really. It depends on who you ask.

Bill Deac of the Drug Enforcement Administration sees it as an increasing problem. "This is a problem that is a fairly new one," Deac said. "It's getting worse every year. It is up to the various jurisdictions to confront the problem and to get legislation passed."

To be sure, the movement to enact legislation to control lookalikes has begun to gather momentum, with various legislatures considering lookalike legislation to control the spread of lookalike drugs. Jurisdiction to control the industry will have to come from within the states, according to Deac, because local prosecution "is not within our mandate."

Dr. Tocus of the Food and Drug Administration predicted that the lookalike phenomenon may well run out of gas, the victim of its promoters own greed.

HERBS AND HIGHS

Clearance prices on legal stimulants. Many new products, lower prices, inquiries invited. Write CLEARANCE, Box 438, Wrightsville Beach, NC 28480. Please include telephone number.

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Legal stimulants. Major manufacturer seeks qualified distributors only. Must be buying 500 bottles per week presently. Please write or phone NEWTRON PHARMACEUTICALS, Mill Road, P.O. Box AB, Coram, NY 11727, (516) 732-4550. All inquiries kept confidential. All tablets and capsules available from stock. Only limited number of distributors will be accepted.

"I think a quick killing's being made now," Dr. Tocus said. "The companies making these drugs are spending a great deal on promotion because they know the government will eventually get around to regulating these things. When it becomes less profitable, they'll get out."

One of the most remarkable aspects of the entire lookalike controversy right now is that it has continued for as long as it has. Until the explosion of advertising involving lookalikes, it was a safe bet that most lookalikes were destined sooner or later to be the substance around which a rip-off is constructed. Someone, somewhere along the national drug supply chain — maybe not at the top as Mr. Deac pointed out — but *somewhere*, would most assuredly represent his product as legitimate, bona fide, pharmaceutical-quality amphetamine. Then, money would change hands and the burn would be complete. That's what lookalikes, everyone thought, were all about.

Making the current lookalike situation interesting is that interest and demand have not abated with the publicity that peashooters aren't, in Mr. Deac's words, "the real thing." Apparently, from the obvious financial success that manufacturers and distributors continue to enjoy, people want the lookalikes anyway, which apparently means they're satisfied, at least for the time being.

So, where does the "peashooter phenomenon" go from here? Probably in the direction of greater controls on manufacturers and restrictions on distributors. But the difficulties involved in effectively cracking down on a substance as ubiquitous in our society as caffeine — and, increasingly, the other non-prescription medications found in peashooters — is going to take some doing.

For these and other reasons, not the least of which is our society's continuing mania for mood-altering substances of all kinds, it looks like lookalikes might just be around for a long, long while.

The Ax Falls

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funds are now largely provided through Statewide Service Grants, but H.R. 2272 would increase the required state match to 50% from the current 40%.

Allocation of funds, under the Waxman bill would be based on a state's population and per capita income. A state plan would be required only once every three years under the proposal, with a yearly grant request.

A further stipulation of the bill would require that at least 12.5% of federal funds to the states be spent on prevention.

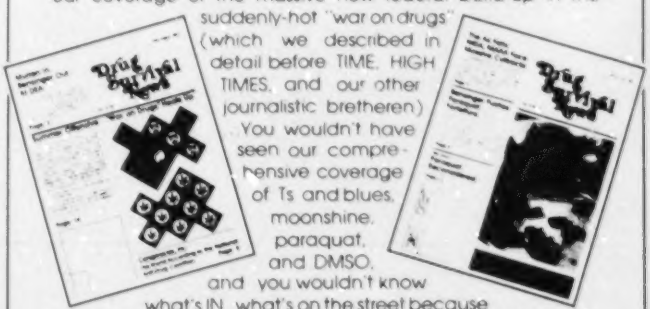
Another 10% of available federal funds would be allocated for direct funding of demonstration grant, for which states and federal programs would not be eligible.

The Waxman bill must be reported out of the Subcommittee on Health and the Environment, and a report filed before the full House for consideration prior to the May 15 Budget Act deadline.

— Jim Parker,
Joe Patterson

If You Haven't Seen Us Lately, You Haven't Seen Us At All

Because you would have missed our major new changes in format and editorial policies ... You wouldn't have seen our in-depth examination of "lookalike" drugs — a story we broke months before other national media ... You would have missed our coverage of the massive new federal build-up in the suddenly-hot "war on drugs" (which we described in detail before TIME, HIGH TIMES, and our other journalistic bretheren) ... You wouldn't have seen our comprehensive coverage of Ts and blues, moonshine, paraquat, and DMSO, and you wouldn't know what's IN, what's on the street because you would have missed our regular street drug analysis reports ... You'd probably also be unaware of the latest doings of the National Anti-Drug Coalition, the National Federation of Decency, and the National Federation of Parents for Drug-Free Youth ... You would have also failed to notice our scintillating wit, oracular opinion, intriguing interviews, and provocative profiles of the great and near great — as well as our periodic updates on miscellaneous phonies and pretenders of every persuasion.



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Open Season:

Deaths Linked to "Lookalike" Drugs

Legal "lookalike" stimulant drugs have been implicated in a number of toxic reactions and idiosyncratic responses that have resulted in the deaths of at least four users nationwide.

Three of the deaths occurred in New Mexico during the past four months and a fourth occurred in Boone County, Illinois. According to the New Mexico medical investigator's office, two of the deaths in that state were triggered by phenylpropanolamine, the other by ephedrine. The Illinois death was attributed to "acute caffeine toxicity" by the county coroner. Caffeine, phenylpropanolamine, and ephedrine are common ingredients in amphetamine lookalikes.

Dr. Barry Diskant, emergency room physician at St. Joseph's Hospital in Albuquerque, New Mexico, told *Drug Survival News* that two persons died at his hospital following ingestion of "pretty small quantities of (lookalike) drugs."

Dr. Diskant reported the official cause of death in both instances as "massive bilateral cerebral hemmorhage," which was diagnosed by cathode ray brain scans. The diagnosis in both cases was confirmed by the state medical investigator's office.

According to Dr. James T. Weston, Chief Medical Investigator of New Mexico, autopsies showed no congenital aneurysm which might have predisposed either victim to stroke. "There was no anatomic antecedents to explain the hemorrhages," he said. Dr. Diskant described both victims as otherwise "normal, healthy individuals."

The first Albuquerque death involving lookalike stimulants took place on December 26. The victim was a 24 year-old male, who ingested two solid black capsules after drinking. He was taken, comatose, to the hospital emergency room several hours later, where he died shortly after.

Another Albuquerque victim, a 17 year-old male, died in February after taking two similar black capsules. Dr. Diskant described the victim as becoming agitated, then "somnolent and confused," before going into seizures and falling into a deep coma. The victim died several days later.

According to Dr. Diskant, the most seriously life-threatening symptoms caused by the lookalike ingredients are "severe hypertensive reactions." He indicated that extreme, transient increases in blood pressure can trigger strokes in susceptible individuals.

"It appears that different individuals have different susceptibility to adrenergic stimulators," he said. "There's really no way of predicting who's going to have these reactions."

"There's really no way of predicting who's going to have these reactions."

Although acknowledging that he doesn't consider the severe reactions cited to be typical responses to the drugs, Dr. Diskant warned that the magnitude of lookalike drug use in the United States increases the likelihood that similar reactions will occur elsewhere.

"I don't think these are by any means common reactions," Dr. Diskant said. "I don't know how many of these things are being sold, but my impression is that it's an enormous market and that a lot of people are taking them every day. Certainly we don't see these reactions that commonly, but it's still pretty much of a risk to be taking them because there's no way of knowing who's going to have the reaction."

When asked to explain the action of the drugs in bringing about severe hypertensive reactions capable of causing death to users, Dr. Diskant replied, "I would have to say this is an idiosyncratic response. It's a secondary response to a toxic reaction."

Of the major ingredients in amphetamine lookalikes, Dr. Diskant warned that ephedrine, especially, "is an enormously powerful drug." Regarding the combination itself, he said, "It's like playing Russian roulette, taking these kinds of drugs. There's nothing scientific to validate the safety of the combination."

A number of common initial side effects would indicate an adverse reaction or idiosyncratic response to lookalike speed. Primary among these symptoms are headache, agitation, tremulousness, and insomnia.

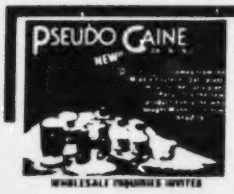
Individuals with pre-existing health problems are at particular high-risk, according to Dr. Diskant. He warned that persons with heart disease, kidney disease, diabetes, hyperthyroidism, or high blood pressure should not take lookalikes under any circumstances.

Dr. Diskant called for legislation that would take lookalike drugs off the market entirely. "There's no good medical indication for these drugs at all," he said, citing "study after study" that have shown their ingredients to be ineffective for long-term weight control. "It seems that the market to whom these are being sold are people who are looking for a kick. And they don't know they're playing with fire."

Lookalikes: Analysis Information

Description & Markings	Drug Content: Caffeine mg.	Drug Content: Ephedrine mg.	Drug Content: Phenylpropanolamine mg.
Tablets:			
Pink, heart shape	106 200	12.5 25	36.7 50
Pink, oval shape (Pink Footballs)	98.1 150 200	15.8 50 50	- 25 25
White, oblong shape - green specs	46.8 176.4 200	22.3 12.6 25	- - 50
White, round shape - one cross (whites)	-	25	25
Orange, round shape "BT 72"	175	25	37.5
Blue, dark blue/white specs	150	50	25
White, oblong shape - blue specs	200 175	25 25	50 50
Capsules:			
Brown/clear, white/orange granules "127"	37.1 173.2 25	16.6 - 25	45.3 - 50
White/clear, white/orange/green granules "127"	110.9 200	26.6 25	61.2 -
Green/clear, white/green granules "127" (X-mas tree speed)	137.9 323.8 200	13.4 -	58.2 - 30.00
Black/clear, "18-845" "18-858" "17-875"	180 100	2.2 25	46.5 50
Yellow, "RJ3" "RUS" "RJS" "18-906"	200 100 125 100	25 25 25 25	50 50 37.5 50
Blacks, "RJS" (Black Beauties) "DEX" "127"	125 200 200	25 25 25	50 50 50
Black, white powder/ brown & black granules "18-769", "RUS"	172.1 125 44.5	9.0 25 -	- 50 2.1
Black, white powder/black pellets "335"	200 144.4	25 24.5	50 55.1

Information obtained from street drug analysis reports or supplied by manufacturers and distributors.



Quaalude, Cocaine Go "Lookalike"

Although most activity in the lookalike drug industry has focused around ersatz speed, lookalike manufacturers and distributors in recent months have sought to diversify their product lines by introducing a number of downer lookalikes and cocaine substitutes.

The most-often imitated drug in the downer category is Quaalude, the popular 300 mg methaqualone tablet produced by Lemmon Pharmaceutical. Lookalikes have rolled off the presses in recent months stamped "Lemon 714" and "Lennon 714." According to Dave Ogden of PharmChem Labs, the active ingredient in the "Lennon" lookalikes is acetaminophen and aspirin.

Cocaine lookalikes are generally sold as "incense," under trade names such as "Toot" and "PseudoCaine." Cocaine substitutes generally include about 80% inert ingredients — usually lactose or other standard cocaine cuts and extenders — with the balance of the product divided between caffeine, phenylpropanolamine and benzocaine, an over-the-counter topical anesthetic. Although distributors commonly warn that the products are not intended for human consumption, "Toot" sells for $75 an ounce, "PseudoCaine" for $160 — pretty stiff prices for "incense," but certainly no more than the traffic will bear.

NEWS

D.I.N. Director Urges Review of "Lookalike" Ingredients

"Lookalike" Hearings Held

by Christina Dye

WASHINGTON — Possible federal initiatives to control or ban manufacture and distribution of "lookalike" drugs were considered in recent hearings before Congressional panels.

Lookalikes — capsules and tablets designed to simulate powerful prescription drugs, primarily amphetamines, and widely available in large quantities through national distributors — currently defy federal narcotics control policies because they contain legally-available, nonprescription ingredients. The drugs have been linked to several deaths over the past year, and have been associated with such serious side effects as massive sudden increases in blood pressure, cerebral hemmorhage, and moderate to severe anxiety in susceptible individuals.

Tighter Controls On Ingredients Urged

The House Crime Subcommittee met October 14 to consider legislative action to limit or restrict availability of lookalikes, including a federal sales ban proposed by Subcommittee Chairman William Hughes (D-N.J.).

Urging tighter controls on ingredients in lookalikes, Jim Parker, executive director of Do It Now Foundation, told subcommittee members that a federal law banning manufacture and trafficking in lookalikes would be insufficient to resolve the current problem. "Lookalikes are not dangerous simply because they look like controlled substances," Parker testified. "They're dangerous because the ingredients they contain are dangerous."

Parker called for a reassessment of the abuse potential and nonprescription status of lookalike ingredients, particularly phenylpropanolamine and ephedrine, rather than a blanket ban on lookalike drugs themselves.

According to Parker, the difficulty in precisely establishing criteria to determine what is what is not a lookalike "would unduly confuse the issue and make enforcement costly and complicated." Further, Parker predicted that federal legislation outlawing manufacture and distribution of lookalikes would only result in lookalike producers changing the size, shape, and color of the pills, effectively negating federal efforts to control trafficking in the drugs.

Parker also proposed an expansion of the powers of the Food and Drug Administration to include assignment of distinctive identifying characteristics, including size, shape, color, and insigna, to over-the-counter as well as prescription drugs, as one means of dealing with the lookalike drug crisis.

Crime Subcommittee members also heard testimony from representatives of the Drug Enforcement Administration, the Food and Drug Administration, and the U.S. Postal Service regarding recent federal initiatives to control the spread of lookalikes.

House Select Committee Considers Legislation

Meeting in Jersey City, N.J., October 26, the House Select Committee on Narcotics Abuse and Control considered testimony from local, state, and federal sources concerning the recent expansion of the national lookalike market.

Committee members heard testimony from representatives of DNE Pharmaceuticals, a Jersey-based lookalikes manufacturer, who "felt they were providing a service" and that their activities "were entirely legal," a Select Committee spokesperson told *Drug Survival News*.

Other participants did not share the views of the lookalike manufacturers, however. In a prepared statement, committee member Frank Guarini (D-N.J.) described lookalikes as "deceptive and dangerous," offering a "great potential for tragic side effects such as heart and respiratory failure." According to Guarini an estimated 100 million lookalike pills will be distributed over the next year which, compared to only 70 million actual amphetamines, constitute "a rapidly growing hazard which must be addressed.

• Drug Survival News • April 1982

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Drug Survival News

DEA Drafts Model "Lookalikes" Act

Model legislation to outlaw the manufacture and distribution of "lookalike" drugs has been drafted by the U.S. Drug Enforcement Administration.

The Model Act, which is intended to serve as a guide for state and local lookalike legislation, focuses on the physical characteristics of lookalikes and representations made by their sellers in defining what does—and what does not—fall under the province of the Act.

According to provisions of the Act, an "imitation controlled substance" is any "substance that is not a controlled substance, which by overall dosage unit appearance (including color, shape, size, and markings), or by representations made, would lead a reasonable person to believe that the substance is a controlled substance."

The Act does not, however, address the use of the ingredients in lookalikes themselves, according to a DEA spokesman. "There's no law against selling these over-the-counter drugs," he said, "unless you misrepresent them."

6

NEWS

Illinois Attorney General Files "Lookalike" Suit

SPRINGFIELD, Ill. — Illinois Attorney General Tyrone Fahner has filed suit against a Maryland lookalike drug distributor in an effort to restrict the flow of lookalikes into the state.

The action follows a May 28th announcement by the state Department of Public Health that three recent Illinois deaths were triggered by use of the drugs.

Calling the deaths a "sad testimonial to the seriousness of the problem," Fahner announced his intention to base the suit on his authority as attorney general to curb public nuisances and violations of the Uniform Deceptive Trade Practices Act and Consumer Fraud Act.

WHY PAY MORE FROM AN UNLICENSED STREET DEALER?

R S L Pharmacal Inc

Bel Air MD 21014
(301) 838 2915

Named as defendants in the suit were R.S.L. Pharmacal, Inc., of Bel Air, Md., and individuals associated with the firm, Robert Louke, Steve Louke and Blair Louke.

The firm and its officers are currently forbidden under the terms of a preliminary injunction issued June 9th in Sangamon County Circuit Court from engaging in further distribution of lookalikes in Illinois.

According to Paul Zemitzsch, director of policy and planning for the attorney general's office, the action was prompted in part by extensive promotional activities directed at Illinois school children by the firm.

"Parents and teachers were turning over pamphlets found in the kids' desks and dressers from R.S.L. Pharmacals (which said) 'why buy from unlicensed street dealers?' and quoted prices on their lookalikes," he explained.

Ingredients in the lookalikes, which are designed to closely resemble pharmaceutical amphetamines and other drugs, generally include non-prescription stimulants and antihistamines. Caffeine, ephedrine sulfate, and phenylpropanolamine are common ingredients in lookalikes.

Three recent deaths in New Mexico were attributed to "idiosyncratic responses" to lookalike ingredients. According to the state medical investigator's office, two of the deaths were triggered by phenylpropanolamine, one by ephedrine (see "Deaths Linked to Lookalike Drugs," May-June *DSN*, p5).

According to Zemitzsch, Illinois had been powerless to intervene due to the drugs' legal status.

"We were receiving inquiries from sheriffs and law enforcement officials who had the operators under surveillance but couldn't do anything because (the lookalikes) were not a controlled substance," he told *DSN*.

Administrative subpeonas have been filed on 20 other lookalike manufacturers and distributors requiring them to provide the attorney general's office with financial and corporate data and advertising samples.

"We will determine from that whether we will file suit. It appears we will ... in almost all 20 cases," Zemitzsch said.

The attorney general's office hopes publicity from the suit will have a "chilling effect" on other companies engaged in the manufacturing and distributing of lookalikes.

"If we can shut these people down by merely scaring them, that's fine," Zemitzsch said. "We don't care how they shut down, just that they do it."

When contacted at his residence in Bel Air, Maryland, Steven Louke, named as defendant in the suit refused to comment. A spokeswoman for R.S.L. told *Drug Survival News* that the firm is no longer in business.

Fahner will introduce legislation in late June to ban the manufacture and sale of lookalikes in Illinois. The proposed legislation would create penalties for lookalikes distribution similar to those for controlled substances.

Penalizing users is "rather pointless" according to Zemitzsch. Enforcement under the proposed legislation would be directed toward distributors, who are "turning a really obscene profit" on the capsules.

The bill has been carefully worded to distinguish between lookalikes and over-the-counter sleeping aids and diet pills clearly labeled as such.

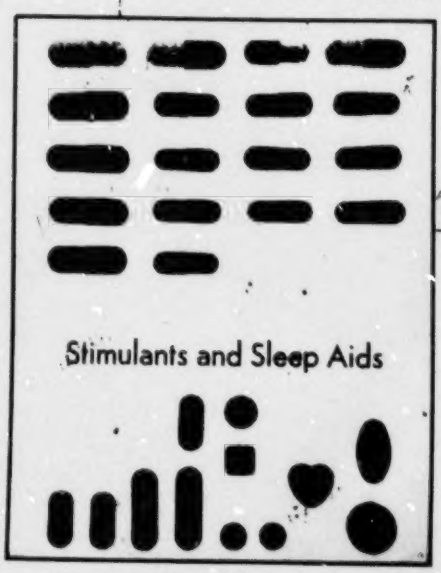
To be totally effective, the attorney general's office feels that legislation must be on the federal level.

"All these people are going to do is move ... go elsewhere. It won't stop the problem, except for Illinois," Zemitzsch.

Health agencies, drug abuse clinics, pharmacists and doctors have strongly supported the move to control lookalikes. The Illinois Department of Public Health has contacted emergency room personnel throughout the state, warning them of the dangers of misdiagnosing an overdose of lookalikes for a controlled substance.

Public Information Officer Mary Huck said the Department of Health and the Dangerous Drugs Commission have contacted physicians, the state medical society and the Illinois Hospital Association in regard to appropriate treatment for a lookalike overdose.

Six other states currently have laws prohibiting the manufacture, sale and distribution of lookalikes.



TWO ADVERTISEMENTS FOR "LOOK-A-LIKES"

7

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April 1982

Opinion

by Jim Parker

The Buck Never Stops

Ever notice that every time Washington cooks up a new law to solve a "problem," the "problem" changes and the "solution" becomes part of a new "problem?"

Sometimes it seems that it's ever been so and will always be so—at least as long as politicians and bureaucrats are in charge of things, which looks to be a while longer yet.

A convenient example of the unholy transformation of "solutions" into "problems" involves the current furor over "lookalike" drugs. Unless you've been in a cave or a monastery for the past twelve months or so, you know about lookalikes—tablets and capsules containing legally-available ingredients designed to simulate scarce and expensive controlled substances, particularly amphetamines.

Although a number of health risks—including massive hypertension and stroke among sensitive users—have been linked to specific ingredients in the pills, the market on the street for lookalikes has grown by leaps and bounds over the past several years, so that, today, lookalikes constitute *the* dominant form of stimulants available on the street.

And in spite of the fact that lookalikes achieved their initial popularity because users often mistook them for more desirable controlled substances, they have remained popular because they happen to be the only stimulants around. Ingredients in the pills—usually caffeine, phenylpropanolamine, and ephedrine—all legally-available over-the-counter stimulants—have become America's new speed through default due to the continuing inavailability of amphetamine and other controlled stimulants. They might not be what you wish they were, this thinking goes, but lookalikes are the only speedy game in town.

Suddenly, years into the "problem," official Washington took notice and labelled lookalikes a "crisis." And in spite of the fact that no one who knows very much about the "problem" has ever suggested that lookalikes might be dangerous because they *look like* something else (most serious thinking has tended to revolve around the notion that the pills contain combinations of ingredients that can be dangerous to hypersensitive individuals), an Official Consensus quickly emerged that Something Ought To Be Done about pills that look like other pills. And in Washington, the something that usually gets done is a law against something. And faster than you can say "training wheels of the drug culture," model legislation was drafted by the Drug Enforcement Administration to outlaw distribution and sale of lookalikes.

Justice prevails, right?

Wrong, ephedrine-breath.

Because no sooner had the ink dried on the DEA model legislation than did manufacturers discern the legendary handwriting on the wall. And seeing that the handwriting covered but a corner of the wall, the now-former lookalike entrepreneurs elected to simply sidestep the entire imbroglio by changing the size, shape, and color of their products.

A Wisconsin distributor which had actively promoted lookalikes stepped out with a new line of products in an ad in the April, 1982 issue of *Penthouse* magazine. And although a casual glance at the ad reveals nothing out of the ordinary, a closer look reveals a striking difference between the company's old and new product lines. Where previously the distributor had offered tablets and capsules in a rainbow of different colors, dressed up like any number of different pharmaceutical amphetamines, now you can get your speeders in any color you want—as long as it's purple.

Otherwise the products—and the advertising—are lookalikes *redux*.

"Strongest body stimulants and appetite suppressants available without a prescription," the ad proclaims, summarizing the pills' strongest selling points in a banner headline that had done time in any number of lookalikes ads months ago: "LEGAL—SAFE—EFFECTIVE."

And, glory be, they come in the same shapes and sizes as they used to—why here's a mini-cross, and there's a robins-egg, and there's a black-beauty, only purple, of course—and the fine print at the bottom even lists the same ingredients: our old friends, phenylpropanolamine, ephedrine, and caffeine.

Following a quick call to the 24-hour seven-day-a-week phone number listed in the ad, I discovered that the purple pill business is brisk, indeed. In fact, the owner even candidly admitted that lately he's been grossing "around a hundred thousand a week." He told me that his best customers are housewives, who buy the drugs as diet pills. When asked if he has any theories to explain why the drugs continue to sell, he said, "Because they do what they say they do. They're safe and effective—and they work." He was noncommittal about health dangers linked with the drugs. "Don't ask me about that," he said. "Ask the people who make Dexatrim. Ask the people who sell Dietac."

Ah, so it comes to this—the old game of passing the buck. And why not?

Passing the buck has a long, lamentable history in the American response to substance use and abuse. Prohibitionists and other citizen-zealots long ago targeted Congress as the ultimate easy mark and periodically pass the buck to the House and Senate in demanding quick-fix enforcement "answers" to drug "problems"—answers that usually do little more than endlessly erode the constitutional protections and civil liberties of *all* citizens. Then, in the time-honored tradition of attempting to solve "problems" by throwing laws at them—and, in the process, erecting an immense federal apparatus to perpetuate the "problem"—Congress typically passes the buck to the Drug Enforcement Administration. The DEA generally does the only thing it knows how to do—propose tougher enforcement—before passing the buck to the states, as it did in the lookalikes "crisis," or passing it back to Congress, in the form of requests for increased appropriations with which to combat the new "problem." And at each successive stage of passing along the buck of responsibility, we place ourselves further and further away from the real source of control over chemical dependency—ourselves.

The "answer" to drug "problems" does not reside in Washington, D.C. The "answer" to drug "problems" will not come from the system of criminal justice, which merely exacerbates and perpetuates the problem—turning it—in the process, from a vexing social problem to an expensive criminal justice problem. The answer, the real answer, to substance abuse in America is to recognize that a certain amount of recreational chemical use is unavoidable, perhaps even desirable, given the stresses, strains, and intrapsychic demands of everyday life, and to realistically educate our people concerning the use, abuse, and documented dangers of sought-after chemical highs. The answer, the final answer, is to confront the problem openly, without fear and without panic and without unrealistic expectations of a prohibitionistic panacea to the "problem." Because not only does a panacea not exist to the complex problem of substance abuse, the search for one is ultimately as misguided and deluded as the perpetual quest for chemical nirvana itself.

Hughes to Introduce Federal Sales Ban

"Lookalike" Storm Gathers in D.C.

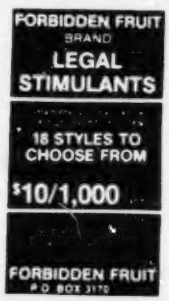
by Christina Dye and Jim Parker

WASHINGTON—Action on a number of fronts—legislative, administrative, and jurisdictional—is currently evolving in the nation's capitol to limit or restrict availability of "lookalike" drugs.

Initiatives currently under way or under consideration include a federal law to ban sales of the drugs, model legislation for individual states being drafted by the Drug Enforcement Administration, and administrative hearings being conducted by the Postal Service to examine possible mail fraud violations by lookalike manufacturers and distributors.

Hughes to Introduce Sales Ban

Representative William Hughes (D-N.J.), chairman of the House Crime Subcommittee, announced on September 2, that he will introduce legislation to ban the sale of lookalikes altogether.



Hughes cited deaths and health hazards which have been tied to use of the drugs, which are modeled after controlled substances and typically contain legally-available non-prescription ingredients including caffeine, ephedrine, and phenylpropanolamine. The pills, often sold in quantities of 1,000, are frequently advertised as "the most powerful stimulants available without a prescription."

Hughes also noted a recent bulletin from the Drug Enforcement Administration's Office of Intelligence which called lookalike drugs a "multimillion dollar industry" whose "primary targets...are college, high school, and even junior high school students."

"There is no legitimate reason why ordinary stimulants should be marketed with an appearance similar to much more powerful controlled substances," Hughes said in a prepared statement. "Moreover, since they are sold in such large quantities, it is nearly guaranteed that the lookalikes will be resold with impunity at rock concerts, school yards, and elsewhere—most likely for big profits."

Hughes cited the tremendous expansion of the lookalike industry as an argument for legislation. He stated that the total number of lookalike wholesalers and distributors has mushroomed from a handful in 1979 to more than 110 in June, 1981.

Although a number of states have already enacted laws against lookalikes, Hughes said a national law is needed to provide uniform protection among all states.

"The Postal Service has some jurisdiction over this problem, but only if false advertising claims are made," Hughes said. "The Food and Drug Administration likewise has limited jurisdiction, relating only to proper labelling of the product. The Controlled Substances Law deals with counterfeit drugs, but only if the counterfeit contains a controlled substance."

Hughes said he will schedule subcommittee hearings in October to generate further information on problems created by traffic in lookalikes.

DEA Considers Model Act

Meanwhile, DEA and FDA personnel met with staff members of Hughes' House Crime Subcomittee in mid-September to explore possible approaches to lookalike control. A secondary purpose of the meetings, according to a DEA spokesperson, was to clarify the whole issue of jurisdiction "over lookalikes, which thus far has fallen outside the province of federal regulatory agencies.

"We're taking the same kind of approach we took with the paraphernalia issue," the DEA's Harrie Kramer recently told *Drug Survival News*. "We'll be working with FDA on this initiative," Kramer said, indicating that the DEA work group's goal is to draft model legislation which could be enacted by individual states.

According to Kramer, the model legislation could be drafted by late-October, and will be accompanied by a beefed-up publicity campaign "to encourage state action."

Postal Service Files Suit

Meanwhile, the U.S. Postal Service has initiated 39 administrative suits investigating possible fraudulent misrepresentation of lookalikes by distributors of the drugs.

"The Postal Service is currently the only federal agency which can make a move against these companies," Ned Friece, of the Special Investigations Division told *DSN*. "We can't touch the manufacturers, but regulation of mail-order and distribution activities is within our jurisdiction."

The Postal Service suits need not prove intent to defraud, only misrepresentation of the drugs, according to Friece. He stated that misrepresentation or fraud need not be direct, from manufacturer or distributor to purchaser, but may involve eventual misrepresentation or deception.

According to Friece, Postal Service investigators assume that lookalike distributors "know or should have knowledge that the sale of lookalikes will end up on the street."

A second tack available to the Postal Service to restrict mail-order distribution of lookalikes would be criminal investigation under mail fraud statutes, which would involve a determination by the U.S. Attorney General's office that possible criminal activities are connected with the drugs. "We have not yet entered into the mail fraud statute," Friece noted. "We feel that our strongest tack is in the administrative hearing."

Friece feels confident that the Postal Service will win all 39 complaints. "We want to put these companies out of the mail-order business," he said.

D.I.N. Launches Drug Information Network

PHOENIX, ARIZ.—"All that glitters is not gold—especially in the dangerous world of street drugs.

"Do It Now Foundation, America's drug information connection, wants you to have the straight dope on street dope. A major problem on the street today is that of "lookalike" drugs..."

With these words, Do It Now Foundation recently launched its new Drug Information Network in a campaign to let people know what isn't gold on the street, as well as health hazards associated with street drug use.

The Drug Information Network is designed to provide realistic up-to-date information on currently abused drugs and related problems, according to Jim Parker, Foundation executive director. The network consists of an alliance of over 500 radio stations and press services around the country which will air public service and news programming to address these problems. Regular public service announcements are supplemented by Drug Information Network media packets to allow local stations to develop news programming centered around new developments on a regional, as well as national, level.

"The network involves coordinated information feeds on an ongoing basis to radio stations and other media outlets in eight regions across the United States," Parker recently announced. "The regional approach will allow us the flexibility to address individual problems in areas where they're most critical."

Parker plans to ensure coverage of Drug Information Network releases by placing public service information in a news context. "In this sense, network material can by perceived as both news and public service programming," Parker said. "The current lookalike drug problem is a case in point."

The Network was inaugurated in late August with mailings of public service announcements and "lookalike" drug press kits to radio stations around the country. Information is targeted at prime-user populations, via album rock, soul, top 40 and adult contemporary radio stations.

In addition, information packages are furnished to cable television news services and wire services representing both national and international markets.

The Foundation has long been a pioneer in efforts to disseminate realistic drug information. In the late 1960s, Do It Now produced and distributed a series of taped public service announcements on amphetamine abuse, featuring such rock personalities as Grace Slick, Steven Stills and Frank Zappa. The name of the Foundation was, in fact, derived from the tag line of this anti-speed campaign: "Put speed down. Do it now."

ADVERTISEMENT FOR "LOOK-A-LIKES"

"Pick-Me-Ups"

Caffeine

STIMULANT CAPSULES

Ephedrine

Phenylpropanolamine Hydrochloride

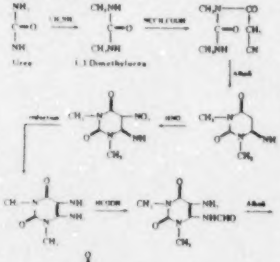
Caffeine

(1*H* Purine-2,6-dione, 3,7-dihydro-1,3,7-trimethyl- Theine

1,3,7-Trimethylxanthine [58-08-2] $(C_8H_{10}N_4O_2)$ (194.19); melting point (K) 543-12 d) (212.21)

For the structural formula, see page 606.

Preparation—Caffeine may be prepared from tea or coffee by boiling with water in the presence of lime or magnesium oxide, which serves to precipitate the tannins and some of the coloring matter. After filtration, the crude caffeine that separates is recrystallized from hot water after treatment with decolorizing charcoal. A source of the commercial supply is tea dust or sweepings, increasing quantities of caffeine are now obtained as a by-product in the manufacture of decaffeinated coffee. It is also produced by methylation of theobromine (partial synthesis) and by total synthesis from urea or dimethylurea by variations of Traube's classic process (*Ber.* 33 3035 (1900)). The essential steps of a synthesis of theophylline and caffeine from urea are shown below:



Description—White powder or white glistening needles, usually matted, odorless and has a bitter taste; solutions are neutral to litmus; the hydrate is efflorescent in air and loses all of its water of crystallization at 80° when heated; sublimes between 178° and 180°.

Solubility—1 g of hydrous caffeine dissolves in about 50 ml water, 6 ml water at 80°, 75 ml alcohol, about 25 ml of 3% acetic acid at 80°, about 8 ml chloroform, and 600 ml ether. Presence of small amounts of alkali benzoates, salicylates, cinnamates, or citrates and thus is the reason for the use of several such preparations.

Uses—Caffeine is used orally as a mild central nervous system stimulant to aid in relieving simple and to restore mental alertness in fatigued patients. In combination with ergotamine tartrate it is used to abort vascular headaches such as migraine and cluster headaches (histaminic cephalalgia). It is used alone or in combination with analgesics (acetaminophen, aspirin, phenacetin, etc.) for the treatment of headache since it has no analgesic activity itself. Caffeine is one of the most common suppositories. It is used in combination with antihistaminics and other sedative agents to overcome the sedative properties of such drugs, however effective dosage for that purpose has not been definitely established. It is used parenterally in the form of caffeine and sodium benzoate for the treatment of respiratory depression associated with overdosage of central nervous system depressant drugs (narcotics, analgesics, alcohol, etc.). Because of the questionable benefit of such use and its treatment at best, most authorities believe caffeine and other analeptics should not be used in these conditions and recommend other supportive therapy. Finally, caffeine is used orally either alone or in combination with other drugs (analgesics, diuretics, etc.) to relieve tension and fluid retention associated with menstruation, in view of its minimal diuretic action, its usefulness in this condition is questionable.

Caffeine and citrated caffeine are well absorbed following oral administration. Absorption by the oral route is more rapid than that after intramuscular injection. Absorption from suppositories following rectal administration is slow and erratic. Following the oral administration of 100 mg of caffeine (as in coffee), peak plasma levels of about 1.5 to 1.8 mg/ml are reached after 30 to 75 minutes. Following oral administration of 450 mg to caffeine-naive subjects, peak plasma levels of 4.2 to 26 μg/ml are reached in a mean time of 60 minutes. It is rapidly distributed throughout all body tissues, readily crossing the placenta and blood-brain barrier. Approximately 17% of the drug is bound to plasma proteins. Plasma half-life is 4 to 6 hours in adults. Plasma half-life in neonates born of women given caffeine prior to delivery has been estimated to be about 80 hours. The drug is rapidly metabolized by the liver to 1-methyluric acid, 1-methylxanthine, and 7-methylxanthine. The parent compound and its metabolites are excreted primarily by the liver.

Caffeine competitively inhibits phosphodiesterase, the enzyme that breaks down cyclic 3',5'-adenosine monophosphate (cyclic AMP). Increased levels of intracellular cyclic AMP in thought to mediate most of the pharmacologic actions induced by caffeine.

In one double-blind clinical study, oral administration of 250 mg of caffeine to nine healthy non-coffee drinkers who had no coffee, tea, or cola in the previous 3 weeks increased plasma renin activity 53%, plasma norepinephrine 15%, and plasma epinephrine by 357%; urinary normetanephrine and norepinephrine were increased 52 and 130%, respectively; mean blood pressure increased 4 (10 mm Hg within one hour; heart rate first decreased and then increased, and respiratory rate increased 20%. Whether habitual ingestion has similar effects remains to be determined.

Caffeine stimulates all levels of the central nervous system. In oral doses of 100 to 200 mg, it stimulates the cerebral cortex producing a more rapid and clear flow of thoughts, wakefulness or arousal in fatigued patients, and improved psychomotor coordination. Its cortical effects are milder and of shorter duration than those of the amphetamines. In slightly larger doses, caffeine stimulates medullary vagal, vasomotor and respiratory centers, inducing bradycardia, vasoconstriction, and an increased respiratory rate.

Caffeine exerts multiple effects on the heart. It has a positive inotropic effect on the myocardium and a positive chronotropic effect on the sinoatrial node, causing a transient increase in heart rate. Force of contraction, cardiac output, and work of the heart. In doses in excess of 250 mg, the centrally mediated vagal effects of caffeine may be masked by increased supra rates, tachycardia, extrasystoles, or other ventricular arrhythmias may result.

Caffeine constricts the cerebral blood vessels but directly dilates peripheral blood vessels, thus, it decreases peripheral vascular resistance. The effect of this decrease in vascular resistance on blood pressure is compensated for by increased cardiac output. Thus, the overall effect of caffeine on heart rate and blood pressure is dependent on whether the central nervous system or peripheral effects predominate. In most instances, therapeutic doses of caffeine increase blood pressure only slightly.

Other pharmacological effects of caffeine include the following: it stimulates voluntary skeletal muscle, increasing the force of muscle contraction and decreasing muscular fatigue; it stimulates parietal cells, increasing gastric acid secretion; it induces a mild diuresis by increasing renal blood flow and glomerular filtration rate and decreasing proximal tubular reabsorption of sodium and water; and stimulates glycogenolysis and lipolysis, but the increases in blood glucose and plasma lipids are usually not significant in normal patients. Repeated use of this substance may result in the development of tolerance to its diuretic, cardiovascular, and central nervous system effects.

Caffeine and other xanthines may enhance the cardiac contractile effects of beta adrenergic stimulating agents. It has also been reported to increase its own metabolism and that of other drugs such as phenobarbital and aspirin. The clinical importance of these drug interactions remains to be determined. Caffeine also interferes with some laboratory tests. It produces false positive alterations of serum urate, a slight increase in urine levels of vanillylmandelic acid, catecholamines, and 5-hydroxyindoleacetic acid. Since high urine levels of vanillylmandelic acid or catecholamines may result in a false positive diagnosis of pheochromocytoma or neuroblastoma, caffeine intake should be avoided during these tests.

Acute toxicity involving caffeine has only rarely been reported. Overdosage is usually associated with gastrointestinal pain, mild deliriums, restlessness, dizziness, dehydration, and fever. More serious symptoms include cardiac arrhythmias and convulsions. In adults, intravenous doses of 57 mg/kg of body weight and oral doses of 10 to 14 grams have been fatal. Death has occurred in a child following oral ingestion of 3 grams of caffeine.

Prolonged, high intake of caffeine may produce tolerance, habituation, and psychological dependence. Abrupt discontinuation of the substance may result in headache, irritation, nervousness, anxiety or dizziness.

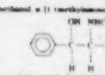
The ingestion of large amounts of combinations containing aspirin, phenacetin, and caffeine has been associated with analgesic nephropathy, characterized by sterile pyuria, aseptic necrotic bacteruria, papillary necrosis, interstitial fibrosis and nephritis. The role of caffeine in the etiology of this condition has not been conclusively established.

Dose—100 to 200 mg; usual 200 mg as necessary.

Dosage Forms—Capsules: 100 and 250 mg. Capsules, Extended Release: 100, 150, and 200 mg. Tablets: 100 and 200 mg.

Ephedrine

Benzenemethanol, α-[1-(methylamino)-ethyl]-, [R-(R*,S*)]-



(–)-Ephedrine [299-42-3] $(C_{10}H_{15}NO \cdot (165.23)$. Hemihydrate [50906-05-3] $(\cdot 0.5 H_2O$ (174.24); an alkaloid which may be obtained from species of Ephedra (Family Gnetaceae) but is usually produced synthetically.

Preparation—First obtained by Nagai in 1887 from a Chinese weed, ma huang. ephedrine is most easily extracted by percolating powdered ma huang with milk of lime or sodium carbonate solution and extracting the base with alcohol or benzene. It is now, however, almost exclusively produced by synthetic methods. The most economic process (Isenberg) for synthetic production commences with fermentation of a mixture of benzaldehyde and molasses to form the ketoalcohol, $C_6H_5CHOHCOCH_3$, which is hydrogenated to a methylamine intermediate. The keto group is thereby reduced to $-CHOH-$, which condenses with the methylamine.

Description—Fine, silky, odorless solid, or white crystals or granules gradually deliquescent on exposure to light; melts between 35° and 40°; the variability in the melting point being due to differences in the moisture content. (ephedrine hemihydrate has only a lower melting point than the hemihydrate of ephedrine; its solution is alkaline to litmus; pK_a 9.6.

Solubility—1 g in 20 ml water; 0.2 ml alcohol; soluble in chloroform and ether and moderately and slowly soluble in liquid petrolatum; the solution in the latter becoming turbid if the ephedrine content is more than about 1% of water.

Incompatibilities—Dilute ferric salts; alkaloids in being soluble in water, producing a solution with a strongly alkaline reaction; liquid petrolatum may occur because of the alkalinity. Rowe (*J. A. PH. A., Pr. Ed.* 31 71 (1942)) have recorded the solubility of the anhydrous alkaloid in light liquid petrolatum as 0.7 g in 100 ml at ordinary temperatures. The base dissolves which contains about 5% of water was soluble only to the extent of 0.04 g in 100 ml of solution at the same temperature. Both substances were more soluble at 37°. This solubility difference in anhydrous and hydrous ephedrine is of importance if using the anhydrous variety in the preparation of oil solutions.

After frequent and prolonged exposure to a moist atmosphere ephedrine may absorb sufficient moisture to permit the preparation of a clear solution in oil due to the separation of droplets of water. The ease of its alkalinity, ephedrine is also incompatible with chloroform, a solvent that sometimes is encountered with alternation of hydrochloric acid. In an oil solution the ephedrine hydrochloride that formed is insoluble.

Uses—In ordinary doses ephedrine acts exclusively through release of norepinephrine from adrenergic nerves. In higher doses it has a direct sympathomimetic action. It penetrates membranes and into the brain, and hence has central nervous actions which however are not as prominent as those of the amphetamines.

Although ephedrine mainly acts indirectly through the release of norepinephrine, its peripheral effects are as though it possessed weak α-agonist activities, except that it acts rather strongly on the cognate splanchnic and has moderate β_1- and β_2-agonist activity, except that its β_2 activity is limited to the bronchioles. its weak hyperglycemic effect resulting mainly from central nervous actions. Its uses have been all of the same general character as the pressor agents, except for those dependent on a vasodilator action. However some actions and uses are more outstanding than others and deserve special mention. Its most important use has been that as a bronchodilator, for which its oral efficacy has special advantages. Indeed, aerosolized and other more selective bronchodilators threaten to make ephedrine obsolete in this use. It will continue to be useful in the nonemergency outpatient treatment of Adams-Stokes syndrome. It will also probably continue to be an important drug for the management of urinary frequency and enuresis, because the vascular α activity is weak. The weak vascular α activity may actually have some advantages in the support of blood pressure since the α1 vasoconstrictor effects may result in less ischemic damage than with stronger α agonists. The moderate cardiac stimulation is beneficial in shock. The weak vasoconstrictor effects also lend themselves to the ambulatory management of various allergic conditions. ephedrine being safer to use than stronger α agonists, in allergic emergencies as a substitute for epinephrine. As a topical decongestant it is not widely used, but it has the advantage of only slight afterstimulation. It is no longer prominent among the mydriatics. Ephedrine has had an interesting use in the treatment of myasthenia gravis, in which disease it appears to improve muscular function by increasing the release of acetylcholine at the neuromuscular junction. The only central nervous use of importance is in the treatment of narcolepsy, in which it is the drug of choice because of its abuse potential less than that of the amphetamines. However ephedrine is used in various drug combinations with central depressants to counteract sedative effects. Also, sedation may be included in ephedrine preparations to antagonize the central stimulatory effects of ephedrine.

Ephedrine is resistant to monoamine oxidase (MAO) and is thus orally effective. In the oral route its duration of action is 2 to 3 hours. The half-life is about 6 hours, but when the urine is alkaline it is longer and when acidic it is shorter. Although it is not a substrate of MAO, it is said that MAO inhibitors may cause a hypertensive crisis in response to otherwise safe doses, therefore caution is indicated. For other potential adverse effects and precautions, see the general statement.

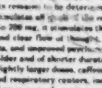
As a rule, salts of ephedrine are employed instead of the free base.

Dose—(by usual routes) adults 25 to 50 mg every 3 to 4 hours; pressor dose for vasopressor effects of anesthetics or antihypertensives, 10 to 25 mg every 3 to 4 hours, repeat as necessary; children, 0.5% solution, marketed only as products containing other active ingredients.

Phenylpropanolamine Hydrochloride

Benzenemethanol, α-(1-aminoethyl)-, hydrochloride [154-41-6] $C_9H_{13}NO \cdot HCl$ (187.67)

Phenylethanolamine hydrochloride



(±)-Norephedrine hydrochloride [154-41-6] $C_9H_{13}NO \cdot HCl$ (187.67)

Preparation—By reacting acetaldehyde with nitroethane in DMF, followed in the presence of acid on hydrogenation to form α-(1-aminoethyl)benzyl alcohol and then reacting this nitrogenated to the corresponding amine compound. stream of hydrogen chloride passed into a suitable solution of the free gives the hydrochloride. US Pat 2,151,517. For an improved industrial process see US Pat 3,028,429.

Description—White crystalline powder having a slight aromatic odor affected by light; melts between 181° and 196°; pH (5 in 100 solution) have are 4.2 and 5.5; pK_{a_1} 10.10; pK_{a_2} 9.04; pK_{a_3} (0.001) 8.08.

Solubility—1 g in 1.1 ml water, 2.4 ml alcohol, 4100 ml chloroform; insoluble in ether.

Uses—An indirectly acting sympathomimetic with predominant peripheral adrenergic effects and weak central stimulant actions. The principal uses of phenylpropanolamine are as a nasal decongestant in hay fever, for which it may be given orally or topically, and as a bronchodilator and bronchial decongestant in asthma. Promotional claims that systemic (oral) phenylpropanolamine has a selective vasoconstrictor action on the nasopharyngeal and otic regions have not been substantiated in man, a substantial decongestant action in the above areas is accompanied by a hypertensive response. It is peculiar that commercial preparations of phenylpropanolamine hydrochloride contain a mixture of drugs. Under such circumstances, assessment of the true contribution of phenylpropanolamine to any therapeutic response is difficult.

The actions, adverse effects, precautions, and drug interactions of indirect and centrally acting sympathomimetics may be found in the general statement.

Dose—Oral: adult, 25 to 50 mg every 3 or 4 hours.

Dosage Forms—Capsules: 25 and 50 mg. Powder: 15 g. Elixir: 30 mg/5 ml.

- Caffeine Phenylpropanolamine Hydrochloride and Ephedrine are the main ingredients in the 30 legal stimulants carried by Zia Pharmacal. The combinations may vary.
- For further information about these stimulants you should contact your physician or the New Mexico Poison Control Center.
- You MUST be at least 18 years old with a valid ID to purchase this product.

The "Pick-Me-Ups" Place

ZIA PHARMACAL

2807 San Mateo NE, Albuquerque, N.M. 87110 • (1-505) 884-1209

1900 Central SE, Albuquerque, N.M. 87106 • (1-505-243-8491)

This is an informational advertisement paid for by Jerry Hecht, owner of Zia Pharmacal

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da
metro drug awareness
501 public health center
250 south fourth street
minneapolis, minnesota 55415
(612) 348-8027

STREET DRUG ANALYSIS NEWSLETTER

VOLUME VIII NUMBER VIII AUGUST 1, 1980

STREET SPEED UPDATE

Over the past several months, we have noticed an increased availability of a variety of capsules and tablets being sold on the street as speed. Traditionally, the street speed has been sold in the form of a small white tablet with a single or double score on one side. This substance with the street name of "white cross" has been the subject of earlier articles in this newsletter when we pointed out the high rate of misrepresentation that is prevalent on the street regarding these tablets. The assumption many people make is that they are buying some form of amphetamines, a rather potent central nervous system stimulant. However, as our past articles have stated, the white cross will contain amphetamines only about one-third (30 percent) of the time and other less potent stimulants such as caffeine, ephedrine or phenylpropanolamine about 60-65 percent of the time.

The newest forms of street speed appear to be more "authentic," more like legitimate pharmaceutical chemicals and, in fact, they are in many instances.

What is happening is that certain pharmaceutical companies have begun to produce a line of "100 percent legal stimulants" for "body stimulation and appetite suppression." Based on our own analysis and reports from manufacturers, these substances contain between 100-250 mg. of caffeine, 50 mg. of phenylpropanolamine or 25 mg. of ephedrine sulfate, or variations and combinations of these three chemicals. The drugs are legally available and advertised for sale in national periodicals at prices ranging from 13¢ to 34¢ per dose depending on type or quantity. However, because the drugs are deceptively packaged to look very similar to prescription pharmaceutical stimulants, street dealers are able to sell them for up to $4.00 per dose misrepresenting them as biphetamine or methamphetamine.

There are an estimated six pharmaceutical companies marketing the "legal stimulants" at the present time. Descriptions of all their products are too numerous to list in this newsletter but some of the more common are as follows:

- black Capsule #18-858
  #18-789
  #18-658
- Black Capsule #335 Dex
- Black Capsule letters RUS
- Yellow Capsule #18-704
- Yellow Capsule letters RJ8
- Brown/Clear Capsule #127
- Pink Oblong Tablet
- Blue/Clear Capsule #127
- Green/Clear Capsule #127
- White/Clear Capsule #127
- White with Blue Specks Tablet
- White with Green Specks Tablet
- Blue with Blue Specks Tablet
- Small White Round Double-Scored Tablet

If you are interested in additional information or have information you are willing to share regarding using or obtaining these substances, feel free to contact this office.

METRO DRUG AWARENESS STREET DRUG ANALYSIS
JULY 1980

NA - Not Available
NO DRUG - No Mood-Altering Substance

NO.	ALLEGED	ACTUAL	DESCRIPTION	ORIG.	PRICE
1	NA	No Drug Found	Clear capsule with beige pwd	Mankato	NA
2	NA	No Drug Found	Large beige tablet	Mankato	NA
3	Amphetamine	Ephedrine	White double scored tablet	Fridley	$20/100
4	Speed	Caffeine	White oblong pills with green specks	So. Mpls	$40/100
5	Minerals	No Drug Found	Small, thick white tablets		NA
6	Neurotrophy	No Drug Found	Small, thick white tablets		NA
7	Marijuana Seeds	Marijuana Seeds	Small round green seeds	Mpls.	NA
8	Unk	Ephedrine, Phenylpropanolamine, caffeine	Black capsule/white powder		NA
9	Black Beauty	Doxepin (Sinequan)	Black Capsule	NA	NA
10	Dilaudid	Ephedrine	White powder		NA
11	NA	Ephedrine	White cross	NA	NA
12	NA	Ephedrine, phenylpropanolamine, caffeine	Black capsule/white powder	NA	NA
13	Ear Drops	Cortisporin	Clear Liquid (dropper bottle)	So. Mpls.	NA
14	NA	No Drug Found	Test Tube - semi clear jelly	So. Mpls.	NA
15	Unk	Theophylline, Ephedrine	Aspirin sized yellow simple scored tablet	Mankato	NA
16	Psylocybin	No Drug Found	Mushroom (1/5 + stem)	So. Mpls.	$25/ounce

STREET HUSTL'N

The data for this chart was provided by Metro Drug Awareness, Minneapolis MN and PharmChem Research Foundation, Menlo Park, Ca.

Street Hustl'n is written and edited by Mary Ann Holtz

Street Drugs Analysis All U.S. **April – July 1980** Actual Contents (main ingredients) / Purported Contents	Amphetamine	Methamphetamine	Caffeine	Ephedrine	Caff & Ephedrine	Pseudophedrine	Caff & Pseudophedrine	Diet Pills	Asthma Meds & Antihistamines	Barbiturates	Methaqualone	Misc Tranquilizers	Diazepam (Valium)	Cocaine	Coke & Lidocaine	+ Mannitol	+ Misc Pharms	Additives Only	LSD	Positive THC	PCP	Heroin & adulterants	MDA & MDM	Mescaline	Psilocybin	Corticosteroids & Arthritis Meds	Unidentified	No Drugs	Totals
Amphetamine	2			4	4	3	2	3		1																	1	2	23
Methamphetamine		11			1				1								1												14
Speed-Uppers	3	3	7	3	7	1		2	3									1											20
Downers										6		3	1														1		11
Methaqualone											23		37																60
Cocaine		1												79	39	24	66	10									3		218
Heroin																						2							2
Opium																											1	1	2
LSD																			10										10
Marijuana Hash				1																39	1							4	44
PCP																				1	2							1	4
Angel Dust /THC																				4									4
MDA & MDM																							7						7
Mescaline																								3					3
Psilocybin																									2			2	4
Arthritis Meds													6													7			13
Asthma Meds									1																	2			3
Diet Pills				4	1			1																					6
Unknown	2	2	3	7	9	1	6	1	10	3	4	1	21	4	4	4	5	8	2	13	3		2			39	18	39	193
Totals	9	16	15	19	30	4	10	4	15	9	27	4	68	80	43	28	72	19	12	53	6	2	9	3	2	39	18	46	647

Imitation Amphetamines

Imitations – they seem to be everywhere. And the latest ones to hit the street drug market are very good imitations. Look-alikes to prescription amphetamines, these imposters are actually various combinations of caffeine, ephedrine sulfate, and PPA (phenylpropanolamine), an over-the-counter diet aid and decongestant. According to the September issue of *HIGH TIMES* magazine, these rip-offs are referred to as "peashooters."

For example, a yellow capsule marked #18-704 looks just like the prescription diet medication Ionamin® that carries the number 18-904. Black capsules with various numbers such as #18-858, #18-799 and #18-651 bear striking resemblance to Pennwalt's Biphetamine® black capsules, #18-875 and #18-876.

Other disguises include black capsules marked with RUS or RJ8, a green and clear capsule #127 that looks a great deal like Dexamyl®, pink oblong tablets, white tablets that may have green or blue specks, a variety of other capsules and the ever-present small white scored tablets.

These drugs are manufactured legally, sold to distributors for a few cents a dose then filtered down to the street. On the street they may be sold as amphetamines, biphetamines, or just "speed," at prices ranging from $1 to $5 each.

Reports of "peashooters" have come from all over the country and from analysis labs included in our chart. Not shown on this chart are samples that were found to contain PPA. Twenty-one samples contained caffeine, ephedrine and PPA; three samples contained PPA and caffeine; and one contained only PPA.

While these drugs may seem harmless, adverse reactions are possible. Too much caffeine can cause headache, irritability, nausea and stomach irritation. Effects of ephedrine and PPA include anxiety, headache, confusion, vomiting, delerium and muscle tremors. PPA also may increase blood pressure.

Please Note:
If you are attending the NADC Conference and are interested in a national coalition for street drug analysis programs, please contact Mark Clark at the DO IT NOW Foundation/Wisconsin Clearinghouse Booth #14 for information concerning a meeting to be held during the conference.

SELECTED BIBLIOGRAPHY

1. Belleville, Bill; "The Peashooter Phenomenon;" *High Times:* September 1980; p. 21.

   Description of distributor of bogus amphetamines in Florida, their products and the reaction of local law enforcement.

2. Bennet, William M.; "Hazards of the Appetite Suppressant Phenylpropanolamine;" letter in *Lancet,* Vol. 2 (8132); July 7, 1979; p. 42.

   Medical case report of patient with an adverse reaction to phenypropanolamine resulting in fever, abdominal pain, diarrhea, muscle tenderness, and other symptoms.

3. Blum, Alan, M.D.; "Phenylpropanolamine: An Over-the-Counter Amphetamine?" *Journal of the American Medical Association;* Vol. 245 (13), April 3, 1981; p. 1346-7.

   Editorial questioning why, as the Food and Drug Administration is taking a harder stance against prescription amphetamines, are over-the-counter medications being so widely publicized and sold.

4. "Diet Pills — Too Much of A Miracle?" *Time;* September 3, 1979; p. 49.

   News article debating the effectiveness of PPA and benzocaine preparations for weight loss.

5. Dietz, Albert J., Jr., M.D., Ph.D.; "Amphetamine-like Reactions to Phenypropanolamine;" *Journal of the American Medical Association;* Vol. 245 (6), February 13, 1981; p. 601-2.

   This is a report of seven patients who experienced acute central nervous system effects from PPA such as tremor, restlessness, agitation, dizziness, anxiety, and hallucinations.

6. Horowitz, J. D., *et al.;* "Hypertensive Responses Induced by Phenylpropanolamine in Anorectic and Decongestant Preparations;" *Lancet,* Vol. 1 (8159), January 12, 1980; p. 60-1.

   In a controlled study, using medical students, the acute effects of a single dose of PPA containing preparations were observed. Increased blood pressure, dizziness, palpitations, and other symptoms occured leading the researchers to recommend more restrictions on the use of these medications.

7. Jordan, P. Susan, Pharm D.; "CNS Stimulants Sold as Amphetamines;" letter in *American Journal of Hospital Pharmacy,* Vol. 38 (1), January 1981; p. 29.

   Letter discussing the marketing of "legal stimulants" including a chart with descriptions and drug contents.

8. Lee, K. Y., *et al.;* "Severe Hypertension After Ingestion of an Appetite Suppressant (Phenylpropanolamine) with Indomethacin;" *Lancet;* Vol. 1 (8126), May 26, 1979; p. 1110-11.

   Case report of adverse drug interaction between PPA and indomethacin (Indocin, a prescription arthritis medication) resulting in vaso-constriction, hypertension, and headache.

9. "'Lookalikes': A New Drug Danger;" *Time;* September 21, 1981; p. 69.

   News article reports that lookalikes have been implicated in 14 deaths and that while the FDA and the DEA have no enforcement power over these drugs, the postal service and individual states are beginning to take some action.

10. Mazer, Eileen; "Diet Pills: The Facts, The Lies, The Surprises;" *Prevention Magazine;* May 1981; p. 58-63.

    Article written for general public on over-the-counter diet aids that include PPA, with a discussion of the adverse effects such as hypertension and psychotic episodes.

11. Neuhaus, Cable; "Speed Kills — And So Can Deadly Imitators That Look and Act Like the Real Thing;" *People Magazine,* September 7, 1981; p. 32-34.

    Story of a 21-year-old guitarist who suffered a stroke after taking three lookalikes, and the distribution of these drugs from Lewistown, Pa., where over 130 businesses are involved in mail order sales.

12. Siegal, Ronald, Ph.D.; "Cocaine Substitutes;" letter in *New England Journal of Medicine;* Vol. 302. (14), April 3, 1980; p. 817.

    Discusses the growing popularity of products sold as cocaine substitutes that contain mannitol, benzocaine, procaine, caffeine, and other unusual compounds. Physicians are warned to be aware of these substitutes when confronted with alleged cocaine abuse.